

Trend Study 28-13-98

Study site name: Asay Knoll.

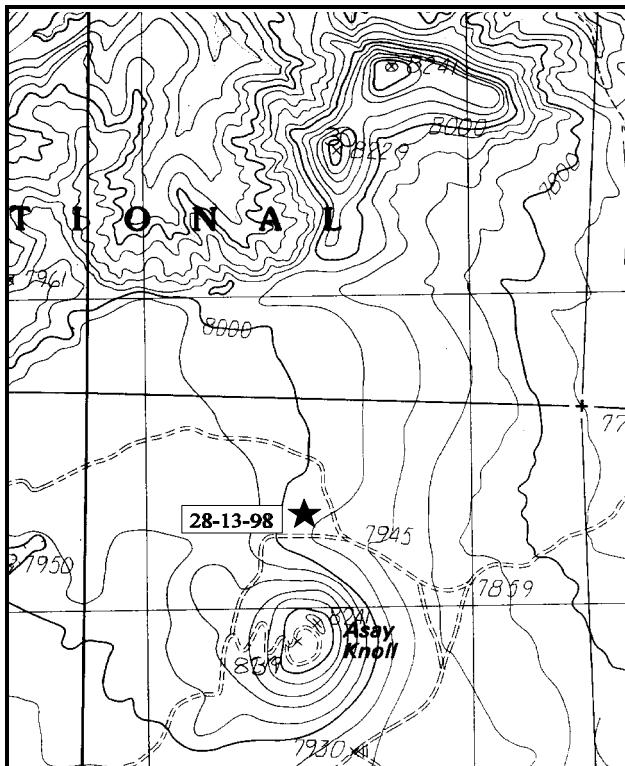
Range type: Sagebrush-Grass Burn.

Compass bearing: frequency baseline 195 degrees.

Footmark (first frame at) 5 feet, footmarks (frequency belts) line 1 (11 & 71ft), line 2 (34ft), line 3 (59ft), line 4 (95ft).

LOCATION DESCRIPTION

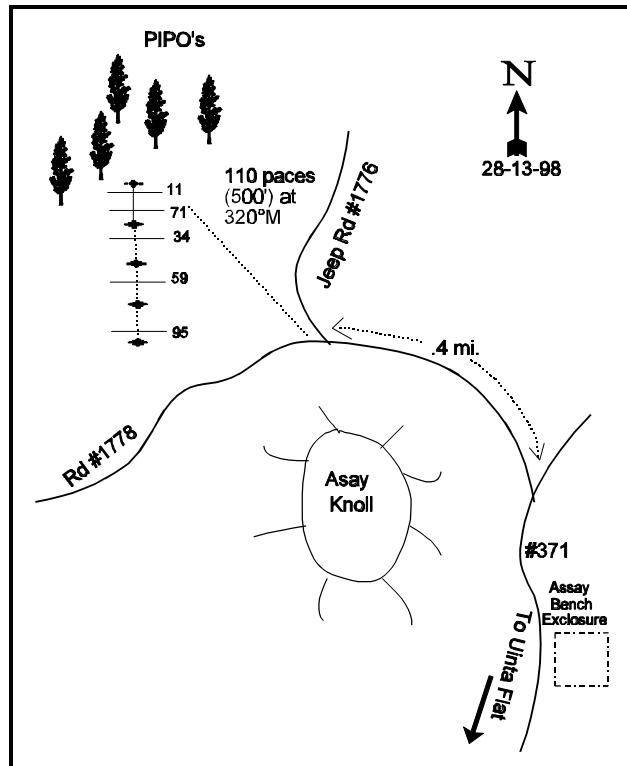
Turn off highway 143 onto Mammoth Creek Rd. Drive 3.5 miles, turn right across Mammoth Creek, staying on Road #68. Continue 0.5 miles to a "T" and turn right. Drive another 4.6 miles and turn left onto the Uintah Flat Road. Follow this road for 3.0 miles and turn left onto Road # 371 toward Asay Bench. Go 1.4 miles until you just pass the Asay Bench Exclosure where a faint dirt road circumventing the knoll is visible on the left. Follow this road 0.4 miles to the fork of Road # 1778 and #1776. Stop here then walk NW to the study site 110 paces at a bearing of 320° M. The site is marked with half high fenceposts.



Map Name: Asay Bench

Township 37S, Range 6W, Section 31

UTM 4157389.478 N, 361502.099 E



Diagrammatic Sketch

DISCUSSION

Trend Study No. 28-13 (47-13)

The Asay Knoll trend study was established in 1992. It is located in an 8,000 acre burn in the Asay Bench, Little Mountain, and Uintah Flat area which burned in July of 1989. The elevation at the site is 7,920 feet with a gentle 8% slope and a southeast aspect. The area originally consisted of open sagebrush meadows and Ponderosa pine forests with a fairly dense understory of mountain big sagebrush, bitterbrush, snowberry, serviceberry, and currant. The study site occurs on an open park area with a few burned Ponderosa trees. In 1992, the burned trees were still standing, while in 1998, the burned trees were on the ground. Surrounding the site on the northeast side of Asay Knoll are patches of burned and unburned Ponderosa pine, aspen, and sagebrush-grass meadows. A stock pond is found 1/4 mile away. In 1992, some cattle sign was noted along with some older elk and deer sign. In 1998, a pellet group transect indicated 20 elk days use/acre, 6 deer days use/acre, and 1 cow day use/acre.

Soil textural analysis indicated a sandy loam soil with a neutral pH (7.1). The soil is shallow and rocky with an average effective rooting depth (see methods) of almost 12 inches and a soil temperature of 64.4°F measured at a depth of 12 inches. In the more open areas, the soil is slightly deeper but still rocky on the surface. Erosion is not a problem due to the abundant vegetation, rock, gently slope, and litter cover.

Shrubs are diverse with 13 species encountered in 1998. Shrubs made up 15% of the vegetation cover in 1992 and now make up 51% vegetative cover in 1998. Not all the sagebrush was eliminated by the fire and the surviving plants are vigorous and producing seed. Mountain big sagebrush is the most abundant with an estimated density of 2,340 plants/acre in 1992 and 4,760 plants/acre in 1998. Age structure indicates a healthy population with many seedling and young plants encountered in both years. Utilization is light and vigor is good. Oregon grape density has declined from 6,670 plants/acre in 1992 to 3,900 plants/acre in 1998. These are small stature plants averaging only 5 inches in height. Some bitterbrush are present with an estimated density of 260 plants/acre in 1998. Other shrubs include: several subspecies of rubber rabbitbrush, fendler ceanothus, chokecherry, currant, Wood's rose, and elderberry. Browse on the site is mostly lightly hedged.

The herbaceous understory is diverse and abundant. Perennial grasses currently account for 23% of the total vegetation cover. Muttongrass is the most abundant grass and provides 15% of the herbaceous understory cover. Other grasses include: bottlebrush squirreltail, slender wheatgrass, a sedge, and Letterman's needlegrass. Perennial grass sum of nested frequency has increased from 365 in 1992 to 411 in 1998. In 1992, most of the species were early seral, annual weeds or weedy increaser perennials. This is still the case although some of the early seral species were not encountered in 1998. Forb cover provided 58% of the vegetation cover in 1992. This has decreased to 26% in 1998.

1992 APPARENT TREND ASSESSMENT

Soil conditions are stable with adequate vegetation, litter, and rock cover to help prevent erosion. Browse is diverse with 15 species encountered. Total browse density is 11,760 plants/acre of which 4,040 plants/acre are desirable browse species. Mountain big sagebrush is the key species with an estimated density of 2,340 plants/acre, which are mostly young plants. Apparent trend for sagebrush is up. Other browse species also appear to be slowly increasing in density. The herbaceous understory is also diverse and abundant with nine species of grass and 23 species of forbs encountered during the 1992 reading. Forbs consist primarily of perennial weedy increasers and annual weeds. Nested frequencies of grasses and forbs will likely decline somewhat in the future as succession, natural thinning, and species competition occurs.

TREND ASSESSMENT

soil - stable

browse - improving

herbaceous understory - stable with poor forb composition

1998 TREND ASSESSMENT

The soil trend is stable with an increase in percent vegetation and litter cover. There is no apparent erosion on the site at this time. The browse trend is stable with many species encountered in 1998. The mountain big sagebrush population is healthy with increasing density. The herbaceous understory is slightly upward. Both grass and forb sum of nested frequency has increased since 1992. Several of the early seral annual species encountered in 1992 were not present in 1998.

TREND ASSESSMENT

soil - stable

browse - stable with healthy browse populations

herbaceous understory - slightly upward with an increase in perennial nested frequency

HERBACEOUS TRENDS --

Herd unit 28 , Study no: 13

| T y p e | Species | Nested Frequency '92 '98 | | Quadrat Frequency '92 '98 | | Average Cover % '92 '98 | |
|-------------------------|------------------------|--------------------------------|------|---------------------------------|-----|-------------------------------|-------|
| | | '92 | '98 | '92 | '98 | '92 | '98 |
| G | Agropyron smithii | 34 | *12 | 14 | 4 | .75 | .09 |
| G | Agropyron trachycaulum | 18 | *46 | 6 | 20 | .27 | .93 |
| G | Bouteloua gracilis | 30 | 22 | 9 | 9 | .85 | .43 |
| G | Bromus japonicus (a) | - | 7 | - | 2 | - | .01 |
| G | Bromus tectorum (a) | - | 5 | - | 1 | - | .00 |
| G | Carex spp. | 54 | 38 | 22 | 21 | 2.22 | 1.31 |
| G | Koeleria cristata | 14 | 15 | 7 | 6 | .18 | .41 |
| G | Poa fendleriana | 75 | 95 | 26 | 33 | 2.07 | 3.38 |
| G | Poa pratensis | 16 | 25 | 5 | 10 | .94 | .65 |
| G | Poa secunda | - | *24 | - | 11 | - | .73 |
| G | Sitanion hystrix | 73 | 64 | 31 | 32 | 2.17 | 1.02 |
| G | Stipa columbiana | - | *11 | - | 5 | - | .24 |
| G | Stipa comata | 17 | *27 | 6 | 13 | .57 | 1.01 |
| G | Stipa lettermani | 34 | 32 | 11 | 11 | 2.23 | .48 |
| Total Annual Grasses | | 0 | 12 | 0 | 3 | 0 | 0.01 |
| Total Perennial Grasses | | 365 | 411 | 137 | 175 | 12.28 | 10.74 |
| F | Agoseris glauca | - | 1 | - | 1 | - | .00 |
| F | Antennaria rosea | 6 | 7 | 2 | 3 | .30 | .30 |
| F | Arabis spp. | 36 | *6 | 13 | 2 | .23 | .04 |
| F | Artemisia ludoviciana | 120 | *187 | 42 | 55 | 5.11 | 5.98 |
| F | Aster spp. | 10 | *- | 4 | - | .33 | - |

| Type | Species | Nested Frequency | | Quadrat Frequency | | Average Cover % | |
|-----------------------|---------------------------|------------------|------|-------------------|-----|-----------------|------|
| | | '92 | '98 | '92 | '98 | '92 | '98 |
| F | Astragalus spp. | - | - | - | - | .00 | - |
| F | Chenopodium album (a) | 251 | *- | 74 | - | 2.67 | - |
| F | Corydalis aurea | 40 | *- | 17 | - | 1.66 | - |
| F | Collinsia parviflora (a) | - | *139 | - | 52 | - | .98 |
| F | Crepis acuminata | - | 3 | - | 2 | - | .03 |
| F | Descurainia pinnata (a) | 34 | 15 | 14 | 8 | 1.25 | .06 |
| F | Epilobium paniculatum (a) | 51 | 44 | 21 | 17 | .22 | 1.27 |
| F | Erigeron caespitosus | 53 | 55 | 20 | 18 | 1.65 | .46 |
| F | Erigeron divergens | 55 | *192 | 22 | 63 | 1.22 | 2.51 |
| F | Erigeron flagellaris | 9 | *14 | 4 | 6 | .12 | .18 |
| F | Eriogonum racemosum | 9 | 14 | 4 | 6 | .22 | .28 |
| F | Lappula occidentalis (a) | 75 | *26 | 31 | 10 | 2.00 | .05 |
| F | Lepidium spp. (a) | 219 | *7 | 67 | 4 | 4.82 | .07 |
| F | Machaeranthera canescens | 1 | - | 1 | - | .00 | - |
| F | Microsteris gracilis (a) | 6 | 5 | 2 | 2 | .01 | .03 |
| F | Phlox longifolia | 3 | 3 | 2 | 1 | .01 | .00 |
| F | Polygonum douglasii (a) | 2 | 1 | 2 | 1 | .01 | .00 |
| F | Potentilla pennsylvanica | 1 | 3 | 1 | 1 | .18 | .01 |
| F | Taraxacum officinale | 1 | - | 1 | - | .01 | - |
| F | Tragopogon dubius | 6 | 1 | 3 | 1 | .01 | .03 |
| F | Trifolium spp. | 4 | 5 | 2 | 2 | .01 | .01 |
| F | Verbascum thapsus | - | 1 | - | 1 | - | .03 |
| F | Viguiera multiflora | 52 | *- | 24 | - | 3.88 | - |
| Total Annual Forbs | | 638 | 237 | 211 | 94 | 10.98 | 2.46 |
| Total Perennial Forbs | | 406 | 492 | 162 | 162 | 15.02 | 9.92 |

* Indicates significant difference at % = 0.10

BROWSE TRENDS --

Herd unit 28 , Study no: 13

| Type | Species | Strip Frequency | | Average Cover % | |
|------|-------------------------------|-----------------|-----|-----------------|-------|
| | | '92 | '98 | '92 | '98 |
| B | Amelanchier utahensis | 1 | 2 | - | .00 |
| B | Artemisia tridentata vaseyana | 46 | 74 | 1.98 | 15.49 |
| B | Ceanothus fendleri | 7 | 7 | .30 | .07 |
| B | Chrysothamnus nauseosus | 9 | 26 | .73 | .70 |
| B | Haplopappus scabulorum | 28 | 37 | .24 | 1.90 |
| B | Mahonia repens | 26 | 24 | 1.64 | 1.81 |
| B | Opuntia spp. | 4 | 7 | .03 | .36 |
| B | Pinus ponderosa | 0 | 0 | .00 | - |

| T y p e | Species | Strip Frequency '92 '98 | | Average Cover % '92 '98 | |
|------------------|---------------------------|-------------------------------|-----|-------------------------------|-------|
| | | '92 | '98 | '92 | '98 |
| B | Prunus virginiana | 4 | 4 | .63 | 1.06 |
| B | Purshia tridentata | 7 | 12 | .14 | 1.03 |
| B | Ribes cereum cereum | 1 | 2 | .03 | .03 |
| B | Rosa woodsii | 3 | 5 | - | .03 |
| B | Sambucus cerulea | 2 | 2 | - | .66 |
| B | Symphoricarpos oreophilus | 13 | 13 | .93 | .47 |
| Total for Browse | | 151 | 215 | 6.68 | 23.66 |

BASIC COVER --

Herd unit 28 , Study no: 13

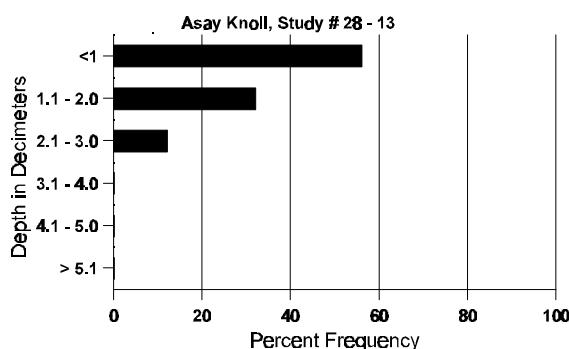
| Cover Type | Nested Frequency '92 '98 | | Average Cover % '92 '98 | |
|-------------|--------------------------------|-----|-------------------------------|-------|
| | '92 | '98 | '92 | '98 |
| Vegetation | 429 | 395 | 37.31 | 44.15 |
| Rock | 279 | 392 | 45.18 | 39.32 |
| Pavement | 20 | 188 | 0 | 2.92 |
| Litter | 325 | 442 | 23.51 | 30.92 |
| Cryptogams | - | 37 | .01 | .74 |
| Bare Ground | 270 | 321 | 20.10 | 18.57 |

SOIL ANALYSIS DATA --

Herd Unit 28, Study # 13, Study Name: Asay Knoll

| Effective rooting depth (inches) | Temp °F (depth) | pH | %sand | %silt | %clay | %OM | PPM P | PPM K | dS/m |
|-------------------------------------|--------------------|-----|-------|-------|-------|-----|-------|-------|------|
| 12.0 | 54.2 (13.7) | 6.1 | 38.7 | 37.4 | 23.8 | 3.9 | 16.9 | 160.0 | .4 |

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 28 , Study no: 13

| Type | Quadrat Frequency | |
|--------|-------------------|-----|
| | '92 | '98 |
| Rabbit | 1 | 4 |
| Elk | 16 | 11 |
| Deer | 15 | 16 |
| Cattle | - | 1 |

BROWSE CHARACTERISTICS --

Herd unit 28 , Study no: 13

| A G E | Y | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total |
|--|----|----------------------------|----|---------------------|---|---|------------------|---|---|-------------------|-------------|-----|------|----------------|--------------------|--------------------------------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | |
| <i>Amelanchier utahensis</i> | | | | | | | | | | | | | | | | | |
| Y | 92 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 |
| | 98 | - | - | 1 | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 |
| M | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 98 | - | 1 | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 39 | 50 |
| % Plants Showing | | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | |
| | | | | '92 | | | 00% | | | 00% | | | | +50% | | | |
| | | | | '98 | | | 50% | | | 50% | | | | 00% | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 20 | Dec: | - | | |
| | | | | | | | | | | | | '98 | 40 | | - | | |
| <i>Artemesia tridentata vaseyana</i> | | | | | | | | | | | | | | | | | |
| S | 92 | 10 | - | - | 4 | - | - | - | - | - | 14 | - | - | - | 280 | | 14 |
| | 98 | 22 | - | - | 3 | - | - | - | - | - | 25 | - | - | - | 500 | | 25 |
| Y | 92 | 77 | 2 | - | - | - | - | - | - | - | 79 | - | - | - | 1580 | | 79 |
| | 98 | 81 | - | - | - | - | - | - | 1 | - | 82 | - | - | - | 1640 | | 82 |
| M | 92 | 35 | 3 | - | - | - | - | - | - | - | 38 | - | - | - | 760 | - | 38 |
| | 98 | 126 | 29 | - | 1 | - | - | - | - | - | 155 | 1 | - | - | 3120 | 22 | 156 |
| X | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 260 | | 13 |
| % Plants Showing | | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | |
| | | | | '92 | | | 04% | | | 00% | | | | +51% | | | |
| | | | | '98 | | | 12% | | | 00% | | | | 00% | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 2340 | Dec: | - | | |
| | | | | | | | | | | | | '98 | 4760 | | - | | |

| A | Y | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total |
|--|----|----------------------------|---------------------|-----|---|------------------|-----|---|-------------------|-----|-------------|-----|----------------|------|-----------------|--------------------------|-------|
| G | R | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | |
| Ceanothus fendleri | | | | | | | | | | | | | | | | | |
| Y | 92 | 6 | 2 | - | - | - | - | - | - | - | 8 | - | - | - | 160 | | 8 |
| E | 98 | 1 | 1 | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| M | 92 | 1 | 4 | - | - | - | - | - | - | - | 5 | - | - | - | 100 | - - | 5 |
| | 98 | 2 | 5 | - | - | - | - | - | - | - | 7 | - | - | - | 140 | 12 31 | 7 |
| D | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 98 | - | 1 | - | - | - | - | - | - | - | - | - | - | 1 | 20 | | 1 |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | |
| | | | '92 | 46% | | '92 | 00% | | '92 | 00% | | '92 | | | | | -23% |
| | | | '98 | 70% | | '98 | 00% | | '98 | 10% | | '98 | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | '92 | 260 | Dec: | 0% | |
| | | | | | | | | | | | | | '98 | 200 | | 10% | |
| Chrysothamnus nauseosus | | | | | | | | | | | | | | | | | |
| S | 92 | 56 | - | - | - | - | - | - | - | - | 56 | - | - | - | 1120 | | 56 |
| | 98 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| Y | 92 | 4 | - | - | - | - | - | - | - | - | 4 | - | - | - | 80 | | 4 |
| | 98 | 7 | - | - | - | - | - | - | - | - | 7 | - | - | - | 140 | | 7 |
| M | 92 | 7 | - | - | - | - | - | - | - | - | 7 | - | - | - | 140 | - - | 7 |
| | 98 | 18 | - | 1 | 2 | - | - | - | - | - | 21 | - | - | - | 420 | 17 25 | 21 |
| D | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 98 | 7 | - | - | 1 | - | - | - | - | - | 6 | - | - | 2 | 160 | | 8 |
| X | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 120 | | 6 |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | |
| | | | '92 | 00% | | '92 | 00% | | '92 | 00% | | '92 | | | | | +69% |
| | | | '98 | 00% | | '98 | 03% | | '98 | 06% | | '98 | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | '92 | 220 | Dec: | 0% | |
| | | | | | | | | | | | | | '98 | 720 | | 22% | |
| Haplopappus scopulorum | | | | | | | | | | | | | | | | | |
| S | 92 | 15 | - | - | - | - | - | - | - | - | 15 | - | - | - | 300 | | 15 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| Y | 92 | 5 | 2 | - | - | - | - | - | - | - | 7 | - | - | - | 140 | | 7 |
| | 98 | 8 | - | - | 1 | - | - | - | - | - | 9 | - | - | - | 180 | | 9 |
| M | 92 | 27 | 2 | - | - | - | - | - | - | - | 29 | - | - | - | 580 | - - | 29 |
| | 98 | 55 | 2 | - | 6 | - | - | - | - | - | 63 | - | - | - | 1260 | 9 10 | 63 |
| D | 92 | 1 | - | - | - | - | - | - | - | - | - | - | 1 | - | 20 | | 1 |
| | 98 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | 20 | | 1 |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | |
| | | | '92 | 11% | | '92 | 00% | | '92 | 03% | | '92 | | | | | +49% |
| | | | '98 | 03% | | '98 | 00% | | '98 | 01% | | '98 | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | '92 | 740 | Dec: | 3% | |
| | | | | | | | | | | | | | '98 | 1460 | | 1% | |

| A G R E | Y | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total |
|--|----|----------------------------|---|-----|------------------|-----|---|-------------------|---|---|-------------|----------------|------|------|--------------------|--------------------------------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | |
| Mahonia repens | | | | | | | | | | | | | | | | | |
| S | 92 | 22 | - | - | - | - | - | 6 | - | - | 28 | - | - | - | 560 | | 28 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| Y | 92 | 83 | - | - | 18 | - | - | - | - | - | 101 | - | - | - | 2020 | | 101 |
| | 98 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| M | 92 | 221 | - | - | 16 | - | - | - | - | - | 237 | - | - | - | 4740 | - | 237 |
| | 98 | 193 | - | - | - | - | - | - | - | - | 193 | - | - | - | 3860 | 5 | 193 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | |
| | | '92 | | 00% | | 00% | | 00% | | | | | | | | | -42% |
| | | '98 | | 00% | | 00% | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 6760 | Dec: | | | - |
| | | | | | | | | | | | | '98 | 3900 | | | | - |
| Opuntia spp. | | | | | | | | | | | | | | | | | |
| S | 92 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| Y | 92 | 6 | - | - | - | - | - | - | - | - | 6 | - | - | - | 120 | | 6 |
| | 98 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| M | 92 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 60 | - | 3 |
| | 98 | 5 | - | - | - | - | - | - | - | - | 5 | - | - | - | 100 | 5 | 5 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | |
| | | '92 | | 00% | | 00% | | 00% | | | | | | | | | -22% |
| | | '98 | | 00% | | 00% | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 180 | Dec: | | | - |
| | | | | | | | | | | | | '98 | 140 | | | | - |
| Pinus ponderosa | | | | | | | | | | | | | | | | | |
| S | 92 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| | 98 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 |
| X | 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | | 1 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | |
| | | '92 | | 00% | | 00% | | 00% | | | | | | | | | |
| | | '98 | | 00% | | 00% | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 0 | Dec: | | | - |
| | | | | | | | | | | | | '98 | 0 | | | | - |

| A G R E | Y | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total |
|--|---|----------------------------|---|---|------------------|---|---|-------------------|---|-----|----------------|------|---|---|--------------------|--------------------------------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | |
| Prunus virginiana | | | | | | | | | | | | | | | | | |
| S 92 | - | - | - | 1 | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| Y 92 | 5 | 8 | - | 1 | - | - | - | - | - | - | 14 | - | - | - | 280 | | 14 |
| 98 | 2 | - | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 |
| M 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| 98 | - | 8 | - | 6 | - | - | - | - | - | - | 14 | - | - | - | 280 | 33 | 12 |
| X 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | | 1 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | |
| '92 | | 57% | | | 00% | | | 00% | | | +13% | | | | | | |
| '98 | | 50% | | | 00% | | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | '92 | 280 | Dec: | - | | | | |
| | | | | | | | | | | '98 | 320 | | | | | | |
| Purshia tridentata | | | | | | | | | | | | | | | | | |
| S 92 | 5 | - | - | - | - | - | - | - | - | 5 | - | - | - | - | 100 | | 5 |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| Y 92 | 5 | 1 | - | 1 | - | - | - | - | - | 7 | - | - | - | - | 140 | | 7 |
| 98 | 2 | 1 | - | 2 | - | - | - | - | - | 5 | - | - | - | - | 100 | | 5 |
| M 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| 98 | - | 6 | - | 2 | - | - | - | - | - | 8 | - | - | - | - | 160 | 13 | 18 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | |
| '92 | | 14% | | | 00% | | | 00% | | | +46% | | | | | | |
| '98 | | 54% | | | 00% | | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | '92 | 140 | Dec: | - | | | | |
| | | | | | | | | | | '98 | 260 | | | | | | |
| Ribes cereum cereum | | | | | | | | | | | | | | | | | |
| Y 92 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | - | 20 | | 1 |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| M 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| 98 | 1 | 1 | - | - | - | - | - | - | - | 2 | - | - | - | - | 40 | 27 | 38 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | |
| '92 | | 00% | | | 00% | | | 00% | | | +50% | | | | | | |
| '98 | | 50% | | | 00% | | | 00% | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | '92 | 20 | Dec: | - | | | | |
| | | | | | | | | | | '98 | 40 | | | | | | |

| A G R E | Y | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total | | | | | | |
|--|----|----------------------------|---------------------|---|---|------------------|---|---|-------------------|---|-------------|-----|----------------|------|--------------------|--------------------------------|-------|--|--|--|--|--|--|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | | | | | | |
| Rosa woodsii | | | | | | | | | | | | | | | | | | | | | | | |
| S 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | | | | | | |
| 98 | 1 | - | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | | | | | | |
| Y 92 | 8 | - | - | - | - | - | - | - | - | - | 8 | - | - | - | 160 | | 8 | | | | | | |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | | | | | | |
| M 92 | 4 | - | - | - | - | - | - | - | - | - | 4 | - | - | - | 80 | - | 4 | | | | | | |
| 98 | 5 | - | - | - | - | - | - | - | - | - | 5 | - | - | - | 100 | 19 | 5 | | | | | | |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | | | | | | |
| '92 | | | 00% | | | 00% | | | 00% | | | | -58% | | | | | | | | | | |
| '98 | | | 00% | | | 00% | | | 00% | | | | | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 240 | Dec: | - | | | | | | | | |
| | | | | | | | | | | | | '98 | 100 | | - | | | | | | | | |
| Sambucus cerulea | | | | | | | | | | | | | | | | | | | | | | | |
| S 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | | | | | | |
| 98 | 1 | - | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | | | | | | |
| Y 92 | 2 | - | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 | | | | | | |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | | | | | | |
| M 92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | | | | | | |
| 98 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | 37 | 2 | | | | | | |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | | | | | | |
| '92 | | | 00% | | | 00% | | | 00% | | | | + 0% | | | | | | | | | | |
| '98 | | | 50% | | | 00% | | | 00% | | | | | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 40 | Dec: | - | | | | | | | | |
| | | | | | | | | | | | | '98 | 40 | | - | | | | | | | | |
| Symphoricarpos oreophilus | | | | | | | | | | | | | | | | | | | | | | | |
| S 92 | - | - | - | 1 | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | | | | | | |
| 98 | 1 | - | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | | | | | | |
| Y 92 | 8 | 8 | 2 | - | - | - | - | - | - | - | 18 | - | - | - | 360 | | 18 | | | | | | |
| 98 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | | | | | | |
| M 92 | - | 7 | 1 | - | - | - | - | - | - | - | 8 | - | - | - | 160 | - | 8 | | | | | | |
| 98 | 16 | 1 | - | 1 | - | - | - | - | - | - | 18 | - | - | - | 360 | 13 | 18 | | | | | | |
| % Plants Showing | | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | | | | | | | | |
| '92 | | | 58% | | | 12% | | | 00% | | | | -31% | | | | | | | | | | |
| '98 | | | 06% | | | 00% | | | 00% | | | | | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '92 | 520 | Dec: | - | | | | | | | | |
| | | | | | | | | | | | | '98 | 360 | | - | | | | | | | | |